

Engines: The Heart of Your Automobiles

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ABSTRACT

With the rising demands of power, better performance and fuel economy in automobile vehicles, engineers do many research and bring the advanced version of automobiles in the market with different type of advanced engines. The vehicles which are coming in our today's time are more better and advanced as compare to the technology which was used earlier. After many years of research Volkswagen group created the first successful automotive W engine, with the introduction of its "W8 Engine (as a testbed for W12)". The W12 combines two narrow-angle VR6 engines around a single crankshaft for a total of four banks of cylinders.

These development and research work is always being carried out by each and every automobile industry to full fill the need of their customers and to achieve more efficient and power full engine for the automobile.

KEYWORDS: Automobile, W Engines, VR Engines, Inline Engines

What is an Engine?

An engine is a machine with moving parts designed to convert one form of energy into mechanical energy. "Are these really the heart of your automobiles?" Well answer to this question is yes. Yes they are the hearts of our automobiles. The engine is the heart of our automobile but instead of pumping blood, the engine pumps air and fuel. The main function of engine is to convert air or fuel into rotary motion so it can drive the wheels of the car.

Type of Engines used in our cars:

Now a days a large number of cars rules the roads of our mother earth. As we all know that there are large number of companies offering the large number of options to the customers and the car lovers to choose from. Do you what type of engine is used in them? Well it depends on company to company. Let's discuss some of the engines which are being used in our cars.

- The Inline Engine
- The V Engine
- The VR Engine
- W Engine

The above mentioned are the names of some widely and popularly used car engines in the automobile sectors. The constantly rising demands regarding performance, running comfort and the fuel economy have led to the advancement of existing drive units and the development of new drive units.

1. The Inline Engine:

The Inline Engine is a type of engine design that is very basic and conventional. In this type of engine construction, the

cylinders are placed in a straight line. The inline four layout is in perfect primary balance and confers a degree of mechanical simplicity which makes it popular for economy cars.

However, despite its simplicity, it suffers from secondary imbalance which causes minor vibrations in smaller engines. These vibrations become more powerful as engine size and power increases, so the more powerful engines used in larger cars generally are more complex designs with more than four cylinders. The one of the biggest advantage of these type of engines is that these engines are relatively short engines and the disadvantage is that the unit is relatively wide which makes it unfit for the use of big cars which require more power.

2. The V Engine:

The V Engine is a newer generation compact engine design. This engine construction places the cylinders at an angle instead of in straight line with each other. The angle between the cylinders varies from 60 to 120 degrees, with the centre lines of the cylinders intersecting with the centreline of the crankshaft. The angles between the cylinders form "V" shape, and that is why this engine is called the "V" engine. The biggest advantage is that they are small and produce more power but the design is complex which is a major drawback.

With a few exceptions, the "V" type engine is usually made with an even number of cylinders. An example includes such as V4, V6 etc. This type of design construction considerably reduces height, length and weight of the engine compared to an inline engine design type with an equal number of cylinders.

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3. The VR Engine:

Volkswagen Group introduced the first VR6 engine in 1991 and VR engines currently remain in production. The need for a powerful alternative suitable for transverse mounting for use in lower mid-range vehicles saw the development of the VR engines. Six cylinders, offset at a "V" angle of 15 degrees, are accommodated in a fairly slender and very short engine block. Unlike the previous designs, the engine only has one cylinder head.

4. W Engine:

A W Engine is a type of piston engine where three or four cylinder banks use the same crankshaft, resembling the letter "W" when viewed from the front. W Engines with the three banks of cylinders are also called "Board Arrow" Engines, due to their shape resembling the British government broad arrow property mark. W Engines are less common than V Engines. Compared with V Engines, a W Engine is typically shorter and wider.

CONCLUSION:

As from the above discussion we have understood that why the Engine is termed as the heart of our automobile. The demand of more comfort, speed and power led to the generation of the different type of engines in the day today market and has taken the demand of innovation to the next level. As we have discussed above the basic and the advanced generation of the car engines.

W Engines with their successful story created a new era of powerful and efficient engines with better fuel economy. From 1906 to present there is a constant increase in power and performance of w Engines. Volkswagen is the only car manufacturer in the world, currently producing W Engines. It has been working in this field since 1998 produced many W Engines e.g W8, W12 and then W16.

So as centuries goes on people's demand for supercars also increases which led many automobile companies to research and produce more powerful engines.

